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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Adam J. Weissman

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PATENT DEPARTMENT - 53051
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EXAMINER

AHN, SANGWOO

ART UNIT

PAPER NUMBER

2166

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/748,505	Applicant(s) WEISSMAN, ADAM J.	
	Examiner Sangwoo Ahn	Art Unit 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11012004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 11 is objected to because of the following informalities:

Claim 11 recites "cost-benefit ration" in line 8 of the claim. There seems to be a typological error.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 20 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites the limitation "the computer-readable medium of claim 17" in line 1. There is insufficient antecedent basis for this limitation in the claim. For the purpose of further examination, the Examiner presumed the Applicant meant "the computer-readable medium of claim 19".

Claim 22 recited the limitation "the item value". There is insufficient antecedent basis for this limitation in the claim. For the purpose of further examination, the Examiner presumed the claim reads as "the computer-readable medium of claim 20, wherein the item value is a representation of whether the item appears in the article".

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 9, 16 – 18, 26, and 28 – 29 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Publication Number 2003/0088715 issued to Surajit Chaudhuri et al (hereinafter 'Chaudhuri').

Regarding claim 1, Chaudhuri discloses a method, comprising:

selecting a plurality of items, each item having an entry in an inverted index, each item entry comprising a listing of articles that the item appears in (paragraph 31 lines 3 – 5, paragraph 32 lines 3 – 4, paragraph 33 lines 3 – 6, et seq.);

determining at least a first item entry and a second item entry for compression (paragraph 35 lines 2 – 3, 15 – 17, et seq.); and

compressing the second item entry into the first item entry resulting in a compressed first item entry (Figures 4 and 5, paragraph 35 lines 5 – 9, et seq.).

Regarding claim 9, Chaudhuri discloses the items comprise words, concepts or images (paragraph 31 lines 3 – 5, paragraph 34 lines 2 – 3, et seq.).

Claim 16 is rejected based on the same rationale discussed above.

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Regarding claim 17, Chaudhuri discloses that the plurality of item entries comprises three or more item entries (Figure 4, et seq.).

Claims 18 and 28 are essentially the same as claim 1 except that it sets forth the limitation as a computer-readable medium rather than a method, therefore rejected based on the same rationale discussed in claim 1 rejection.

Regarding claim 26, Chaudhuri discloses the items comprise words, concepts or images (paragraph 31 lines 3 – 5, paragraph 34 lines 2 – 3, et seq.).

Regarding claim 29, Chaudhuri discloses that the plurality of item entries comprises three or more item entries (Figure 4, et seq.).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 8, 10, 19, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chaudhuri in view of U.S. Patent Number 6,834,290 issued to Thomas Pugh et al (hereinafter "Pugh").

Regarding claim 2, Chaudhuri discloses the method of claim 1.

Chaudhuri does not explicitly disclose determining a cost-benefit ratio, and comparing the cost-benefit ratio with an acceptable value.

However, Pugh discloses determining a cost-benefit ratio (column 3 lines 23 – 25, et seq.), and comparing the cost-benefit ratio with an acceptable value

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(column 3 lines 25 – 30, et seq.). It would have been obvious to a person of ordinary skill in the data processing art to combine the two references because Pugh's use of cost-benefit ration would have enabled Chaudhuri's system to provide a cost-effective reorganization plan for reorganizing data of a database to save memory space.

Regarding claim 8, Pugh discloses a benefit for the cost-benefit ratio is a representation of the amount of memory saved (column 10 lines 39 – 43, et seq.).

Regarding claim 10, Pugh discloses the acceptable value is predetermined (column 9 lines 37 – 40, et seq.).

Claims 19, 25, and 27 are essentially the same as claims 2, 8, and 10 except they set forth the limitations as a computer-readable medium rather than a method, therefore rejected based on the same rationale discussed in claims 2, 8, and 10 rejections.

Claims 3 – 7, 11 – 15, 20 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chaudhuri and Pugh, further in view of U.S. Patent Number 5,915,249 issued to Graham Spencer (hereinafter "Spencer").

Regarding claim 3, Chaudhuri and Pugh disclose the method of claim 2.

Chaudhuri and Pugh do not explicitly disclose an item value for each article that the item appears in.

However, Spencer discloses an item value for each article that the item appears in (column 1 lines 51 – 55, column 3 lines 14 – 30; 56 – 57, et seq.). It would have been obvious to a person of ordinary skill in the data processing art

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to combine the aforementioned references because Spencer's item value would have enabled Chaudhuri and Pugh's system to provide a database structure and query processing technique that efficiently handles queries in very large databases, and accounts for the significance and repetitiveness of certain terms in the articles.

Regarding claim 4, Spencer discloses the item value is a representation of the strength of the item in the article (column 1 lines 53 – 55, column 3 line 30, et seq.).

Regarding claim 5, Spencer discloses the item value is a representation of whether the item appears in the article (column 1 lines 53 – 55, column 3 line 30, et seq.).

Regarding claim 6, Chaudhuri discloses compression and compressed entry. Pugh discloses a cost for the cost-benefit ratio comprises a representation of the loss in precision or the additional processing time that can be required (column 2 lines 21 – 22, column 10 lines 52 – 56, et seq.).

Regarding claim 7, Chaudhuri discloses the first and second item entries, and compression. Pugh discloses a cost for the cost-benefit ratio comprises determining how much the data have to change (column 10 lines 52 – 56, et seq.).

Claims 20 – 24 are essentially the same as claims 3 – 7 except they set forth the limitations as a computer-readable medium rather than a method, therefore rejected based on the same rationale discussed in claims 3 – 7 rejections.

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Regarding claim 11, Chaudhuri, Pugh, and Spencer disclose a method, comprising:

selecting a plurality of items, each item having an entry in an inverted index, each item entry comprising a listing of articles that the item appears in (Chaudhuri: paragraph 31 lines 3 – 5, paragraph 32 lines 3 – 4, paragraph 33 lines 3 – 6, et seq.) and an item value for each article that the item appears in (Spencer: column 1 lines 51 – 55, column 3 lines 14 – 30; 56 – 57, et seq.);

determining at least a first item entry and a second item entry for compression (Chaudhuri: paragraph 35 lines 2 – 3, 15 – 17, et seq.) by determining a cost-benefit ratio for compressing the second item entry into the first item entry (Pugh: column 3 lines 23 – 25, et seq.) and comparing the cost-benefit ration with an acceptable value to determine if the cost-benefit ration is acceptable (Pugh: column 3 lines 25 – 30, et seq.);

if the cost-benefit ratio is acceptable, compressing the second item entry into the first item entry resulting in a compressed first item entry (Chaudhuri: Figures 4 and 5, paragraph 35 lines 5 – 9, et seq.).

Regarding claim 12, Chaudhuri discloses the first and second item entries, and compression. Pugh discloses a cost for the cost-benefit ratio comprises determining how much the data have to change (column 10 lines 52 – 56, et seq.).

Regarding claim 13, Chaudhuri discloses the first and second item entries, and compression. Pugh discloses a benefit for the cost-benefit ratio is a representation of the amount of memory saved (column 10 lines 39 – 43, et seq.).

Regarding claim 14, Pugh discloses the acceptable value is predetermined (column 9 lines 37 – 40, et seq.).

Regarding claim 15, Chaudhuri discloses the item comprise words, concepts or images (paragraph 31 lines 3 – 5, paragraph 34 lines 2 – 3, et seq.).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sangwoo Ahn whose telephone number is (571) 272-5626. The examiner can normally be reached on M-F 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571)272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sangwoo Ahn
Patent Examiner
AU 2166

6/15/2006 SW


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SUPERVISORY PATENT EXAMINER